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SOCIETY OF ARTS.

FRIDAY, OCTOBER 7th, 1853.

NOTICE TO INSTITUTIONS.

The Council beg to announce that Mr. C. D. Collet, Secretary to the Association for Promoting the Repeal of the Taxes on Knowledge, is anxious to give Lectures on that subject at the Institutions in Union, during the Christmas holidays,—say from the 17th of December to the 31st of January inclusive. Mr. Collet proposes to deliver his Lectures gratuitously, but not to contribute anything towards the local expenses. Those Institutions that are desirous of availing themselves of this offer should communicate with Mr. C. D. Collet, 20, Great Coram-street, Russell-square, London, with as little delay as possible, that he may be enabled to make out such a route as shall embrace the greatest number of Institutions within the time specified.

Mr. Robert Scott Burn, Member of the Society of Arts, and Author of "Practical Ventilation, as applied to Public, Domestic, and Agricultural Structures," and other works on sanitary science, is also willing to deliver a Lecture at any of the Institutions in Union in the Midland Counties and Yorkshire, on "Sanitary Science, as applied to House-construction and Convenience," free of all charge whatever, save and except that he would leave it for circumstances to decide as to whether he would make a claim for travelling expenses, in cases where the Institutions were not notoriously poor. It is requested that any Institution situated in the above district, wishing to embrace this favourable opportunity of receiving a Lecture on a subject of such vast social importance, will communicate with Mr. R. S. Burn, Bank-cottage, Stockport, stating the time when they would like to have the Lecture, and other necessary particulars.

THE PAPER DUTY.

QUERIES PROPOSED BY THE SOCIETY OF ARTS, MAY 4th, 1853.

No. 6.—To Authors.

The following closes the series of Queries and Replies on this subject. The five previous sets, addressed respectively to Manufacturers, Wholesale Stationers, Manufacturers from Paper and Manufacturers using it, Publishers, and Newspaper Proprietors and Editors, will be found in Nos. 33, 34, 36, 37, and 39; pages 401, 413, 437, 449, and 475, of this Journal.

1. What is the effect of the Duty on the relations between Authors and Publishers?

Sir David Brewster says, "It prevents *authors* of works of profound science and literature from having any *relations* at all with *publishers* who cannot afford to publish such books. The authors of such works can get them printed in every other country but this."

Mr. C. D. Collet says, "It cripples or destroys the author's fund, and reduces the publishers of fiction to have recourse to writers who, having no power of moving the intellect, excite the appetite instead."

Mr. Charles Dickens says, "I am not aware that it has any."

Mr. Angus B. Reach says, "No doubt its effect is to hamper and circumscribe these relations. I consider that the duty seriously affects the sale of cheap books by tempting the use of the very vilest paper; there being, as I have often observed, a strong predilection in the popular mind for books at once pretty and cheap."

Mr. Leitch Ritchie says, "The duty on paper bears a very small proportion to the whole cost of producing an ordinary book, magazine, or review; and its effect therefore on the relations between authors and publishers is hardly appreciable. It bears a very large proportion, however, to the whole cost of producing the successive numbers or volumes of a cheap serial, and it compels the publishers of such works, therefore, to confine the author's remuneration within as narrow limits as possible. To illustrate this, I may say that the duty on an impression of 60,000 of a single Number of "Chambers' Repository of Tracts," price 1*d.*, would amount as nearly as possible to 19*l.*, more than the author's remuneration; whereas the duty on an edition of 500 of an ordinary novel, price 1*l.* 11*s.* 6*d.*, would amount only to about 8*l.* If we suppose the novelist to receive so little as 100*l.* for his work, the Paper Duty is 8 per cent.; while in the former case it is more than 100 per cent."

Mr. T. Tate says, "The duty is a disadvantage to authors."

2. Has it any tendency to throw the publishing business into the hands of a few capitalists?

Sir D. Brewster says, "Certainly. All the taxes upon knowledge have this tendency, and capitalists have a monopoly, from this cause, of the publishing business."

Mr. C. D. Collet says, "Probably."

Mr. Charles Dickens says, "Not to my knowledge."

Mr. Angus B. Reach says, "It must have such a tendency. The trades requiring the greatest amount of capital must have the fewest professors. At the same time, there is a tribe of low publishers and booksellers, the getters-up and sellers of Holywell-street garbage, whom I would be loath to see encouraged. As to the question, a great amount of the publishing business of London is concentrated in very few hands indeed. The smaller publishers are frequently special publishers."

Mr. Leitch Ritchie says, "It has no such tendency with high-priced books; and with regard to cheap works, the tendency is controlled by a case I shall afterwards explain."

Mr. T. Tate says, "Undoubtedly it has."

3. In joint undertakings between author and publisher for a division of profits, does it postpone the author's receipt of his share by laying a heavy burden upon the material for the production of a book? and does it eventually diminish his share by increasing the risk of printing, and thus compelling small editions to be printed, or rendering it necessary to stereotype, instead of printing a large impression?

Sir D. Brewster says, "In consequence of the duty on paper, a longer time must necessarily elapse before any profits are realised. It diminishes his share of the profits when they are realised, and compels the publisher to print small editions, and to stereotype and re-work them previous to a profit."

The Rev. Derwent Coleridge says, "I am clearly of opinion that the duty on paper lessens the profits of the authors in all the ways above specified; and that if it be necessary to compensate this by an increase of price, a loss, perhaps proportionally greater, may be expected to ensue from diminished circulation."

Mr. C. D. Collet says, "I should think so."

Mr. Charles Dickens says, "In answer to both questions, I believe such arrangements to be altogether irrespective of the paper duty, and to bear no reference to it. The publisher prints what he hopes to sell, and proceeds in what he considers the most prudent way. No reasonable publisher or venturer in publications would hazard a very large impression on the chance of selling it, when the process of stereotyping is so cheap and easy."

Mr. Angus B. Reach, says, "It must necessarily do all these things, or at least strongly tend to do them; an author can of course, if he publish on the terms indicated in the question, expect no remuneration until the sale of the book has paid its commercial expenses,—the duty must necessarily retard that period. As to the second part of the question, I think that small editions, and closed packed type—most unpleasant to read—are frequently the effects of the paper duty. To authors who cannot expect a very great degree of circulation, a tolerably large or handsomely printed edition is at present an impossibility. I have no doubt that their circumstances would—were the paper duty removed—be much benefited.

Mr. Leitch Ritchie, says, "This has been answered in No. 1."

Mr. T. Tate, says, "Yes."

4. Has it circumscribed the limits of the literary profession, and depressed its character by stinting its rewards?

Sir D. Brewster, says, "Certainly."

Mr. C. D. Collet, says, "Certainly."

Mr. Charles Dickens says, "I should say, decidedly not."

Mr. Angus B. Reach, says, "The answer to this question follows as a corollary on the others. No doubt the paper duty has done both things. Well paid, or at all events respectably paid literature, is a pursuit eminently ennobling; but those authors, many of them able but unsteady men, who are content to drudge in the lower spheres of vulgar tale-writing, or hack translations, and who are miserably paid—not one-fourth so well I should think as penny a liners—these men may well execrate the day they took to pen and ink. No doubt the fault is often to be attributed to themselves, but the depressing commercial influences by which their employers are surrounded as certainly re-act upon them also."

Mr. Leitch Ritchie, says, "The literary profession is subject to the ordinary laws of political economy. The price of its labour, like that of all other kinds of labour, depends mainly upon the supply. When the cost of paper was *higher* than at present, authors were paid better, simply because there were then fewer persons capable of writing tolerably well. Novels, for instance, are as good now as they were fifteen years ago, and they are written for less than half the money. An author does not write better than other people merely because it is his trade to write; and his trade, therefore, has been to a certain extent swamped by the crowd of non-professional interlopers. The sufferers are those who do not write so well as the interlopers. If the paper duty is only eight per cent. in a high-priced author's remuneration, it cannot have the effect of circumscribing the limits, or depressing the character of the literary profession. The cost of paper, besides including price and duty, has in the course of the last twenty years fallen to the extent of 3½*d.* per lb. The present duty is 1½*d.*, and five per cent."

Mr. T. Tate says, "It has."

5. Has it operated injuriously upon periodical literature of all kinds, including newspapers? and does it keep down their circulation?

Sir D. Brewster says, "Certainly."

Mr. C. D. Collet says, "It operates very injuriously on all periodical literature, including newspapers, but I do not think it keeps down their circulation."

Mr. Charles Dickens says, "I think not."

Mr. Angus B. Reach says, "No doubt it has. The principle applies in its hurtfulness to every branch of literature, periodical or otherwise. You can make no distinction."

Mr. Leitch Ritchie says, "Its operation is mainly confined to cheap periodicals; and there it is still more a tax upon profligacy than upon knowledge, for the simple reason that the circulation of those periodicals which pander to the tastes of the vulgar and depraved is vastly greater than that of the respectable periodicals."

Mr. T. Tate says, "Yes."

6. Does it affect the independence of their tone, or the quality of the matter which they contain?

Sir David Brewster says, "The quality of any article must be deteriorated when a tax adds to the expense of its production. The quality, both moral and intellectual, must suffer."

Mr. C. D. Collet says, "The quality of the matter, but not (I think) the independence of their tone."

Mr. Charles Dickens says, "Certainly not, as I conceive."

Mr. Angus B. Reach says, "Not, I think, directly. The operation of the pressure in the commercial department may not necessarily affect the independence of tone, but I think it does directly and necessarily affect the quality of matter. Independence of tone is a moral quality, but the question of literary merit is another thing. Everybody can be independent, but not every one can put his independent opinions well upon paper, so as to raise the quality of the contents of the journal for which it is intended."

Mr. Leitch Ritchie says, "Government is severe in its restrictions upon women of the town, and it makes no scruple of arresting a man who is *suspected* of loitering about with the intent to steal; but it looks calmly on while the whole country is saturated with printed incentives to felony and prostitution. This is not a question of the liberty of the press, it is a question of police, and unless a strict surveillance is to be exercised over the baser periodicals, the withdrawal of the duty would, in my opinion, be highly improper. If we dislike the name of a censorship, let the surveillance be termed a police inspection, and let it extend over all serials and periodicals, with the exception of political newspapers, published at a price not greater than one shilling per volume or twopence per number. Few persons are aware of the injury which the supineness of Government occasions to the respectable portion of the press. The poorest adventurer, if he only bids high enough in obscenity and in the laudation of robbery and murder, finds no difficulty in obtaining credit when commencing so sure a game, and is soon able to defy the wealthiest capitalist in the trade. If this unholy competition were at an end, the rivalry would be as regards taste and talent, and industry and experience would meet their due reward."

Mr. T. Tate says, "In a certain sense it does."

7. Please to state any facts relative to the above, or any other points bearing on this inquiry.

Sir David Brewster says, "Many works of great ingenuity and value are prevented from being written and published owing to the tax upon paper, and also fewer printers, paper-makers, and book-binders, are employed."

Mr. C. D. Collet says, "The best exposition of this subject will be found in two pamphlets by Mr. Charles Knight."

Mr. Babbage says, "I did not consider my knowledge of the details of the manufacture of paper to be sufficient to justify me in giving an opinion. Upon the economical opinion as to the effect of the Excise on paper, or on any other article, I knew that there would be no doubt, except amongst *practical men;* and I knew that the Society contained among its members many more able than myself to refute such fallacies. It appeared to me that the great object of these questions was to ascertain what impediments could be removed from the diffusion of printed knowledge. Holding myself the strongest opinions as to the advantage of disseminating knowledge, and believing that there exists a much greater impediment than any there adverted to, I did not think it necessary that I should press my view of that question, uncalled for, upon the Society. The question I allude to is the excessive cost of agency in transmitting the manufacture of the author to the consumer; that is, to the public."

Mr. Charles Dickens says, "The duty on paper is a considerable deduction from the profits of any periodical publication, and I suffer considerably from it in the case of *Household Words.* But I make that journal as good as I can, and if the duty were taken off to-morrow, could make it no better. Neither would it be possible to reduce the price of it to the public. I should put more money into my own pocket, and should be very glad to do that; but I cannot honestly say that I believe the heavily-taxed public would derive any benefit from a process so very agreeable to myself."

The Right Hon. T. B. Macaulay, M.P., says, "I have never paid the smallest attention to the details of the book trade, and am quite unable to answer, from my own experience or observation, any of the queries addressed to authors. I have a strong general impression that the paper duty and the machinery by which it is collected obstruct the progress of a very beautiful and useful manufacture; and I heartily wish that the Chancellor of the Exchequer may soon be able to spare the revenue derived from this source."

Professor De Morgan says, "I do not feel able to give *evidence* from knowledge upon the details of your circular, as I have only that impression which all must have, that the duty on paper does produce evils of the sort described, and have not made any special attempt to ascertain the correctness of that impression. I will, however, make two remarks:—1. The independence and quality of periodicals, if affected at all by the duty on paper, are not influenced by it one-thousandth part so much as by the necessity of pleasing their supporters. Care should be taken not to deduce all possible evils from an obnoxious tax. The tracts of Hannah More's school used to point out in each one sin a breach of *all* the Ten Commandments; but this argument did not reclaim any offenders. 2. The grievance of the paper duty as a tax, will not move the Chancellor of the Exchequer, who knows that there must be taxes. But he may, perhaps, be made to see that the existing duty is like a stamp duty, with no allowance for spoiled stamps; all the spoiled paper pays duty. This is a real grievance, and one which is prevented in other things; as in the stamps, for instance. If it be impracticable, as it undoubtedly is, to levy duty upon the profitable use of paper, there is reason enough in this alone for some other choice of means of revenue."

Professor Henslow says, "I have had no opportunity of inquiring into the extent of the evils to which a tax on paper may give rise. Inasmuch as this tax must tend to increase the price of many books (if not of all), it probably acts as a check upon the diffusion of knowledge. But in many cases, the price of paper bears so small a ratio to the other charges of the press, that the effect of the tax can scarcely be felt in the price set upon the work published."

Mr. Angus B. Reach says, "I have really no facts of sufficient significance to be inserted in a paper of this kind, but I may be allowed to say, that I consider the paper duty, from whatever side it is viewed, to be one great, bad fact."

Mr. Leitch Ritchie says, "If some such arrangement as I have mentioned came into effect, the sole argument in favour of the duty—its pressure upon the profligate press—would fall to the ground; and no Government would be hardy enough to retain what would then be really a tax upon knowledge, and upon the advancement of the people in morals, civilisation, and refinement. The amount of the tax as regards cheap literature, of which an idea is given in my answer to Question 1, is too preposterous for anything but indignation or ridicule; and, in fact, as the producers of this literature, who are depressed and defrauded by its operation, include many of the best, most popular, and therefore most powerful of our living authors, it would not be submitted to."

Mr. T. Tate says, "Authors are too much at the mercy of publishers. If the paper duty were taken off, authors would be better able to publish books on their own account, and they would thereby receive a better remuneration for their writings."

Mr. Tom Taylor says, "I am really unable to answer these questions on the strength of any personal experience on the subject. The author, I apprehend, generally, can know nothing, by virtue of his employment, of the working of the paper duty. I have my own opinions on the subjects to which the queries relate, and they are against the duty; but they are founded on observations and reasoning independent altogether of anything I have come into contact with as an author."

ON THE EDUCATIONAL USES OF MUSEUMS.

On Saturday afternoon Professor Edward Forbes delivered, in the theatre of the Museum of Practical Geology, the opening lecture of the autumn session of the Metropolitan School of Science, applied to mining and the arts.

The professor began by stating that the third session of the Government School of Science having commenced, and the duty of opening the courses having been assigned to him, he should avail himself of the opportunity to offer some remarks upon the leading and characteristic features of the Institution, considered as an educational museum, and to make some observations upon the instructional uses to which museums might be advantageously applied. The school of applied sciences here established was the only instance in Britain of an organized instructional institution arising out of a museum, and being maintained in strict connection and relation with its origin. This was not an accident, but an event contemplated from the commencement of the geological survey. It was an experiment on a considerable scale, with a great purpose; for with a limited, though rapidly improving, machinery, it was intended to advance educational aims, having a vital importance in their bearing on the future prospects of this country. It was an endeavour, by a state mechanism, to cast the seeds of science over the broad fields of British industry, not indiscriminately, but especially in those places where there was a good soil thirsting for their germination. Those who were appointed to be cultivators had a responsible duty and a noble task. They had a firm faith in the dignity of their work, and in the certainty of good results arising from it. This must be their reward, and with it they were content to labour patiently and earnestly to the best of their endeavours, hopeful of the approbation and co-operation, not only of their fellow-labourers in science, but also of all intelligent and patriotic Britons. The results, so far, of the teaching in this Institution had been in the main highly satisfactory. With the close of last session terminated the two years' curriculum of the students who entered the Government School of Mines in 1851. Since their studies were now completed, he might speak of them, not in the language of compliment, for there was no necessity for it, but of unmixed praise. He could say this, not only for himself, but for all his colleagues, and he was glad to record the delightful satisfaction they felt that a distinguished, scientific, and practical career was open to those who were lately their pupils, and whom they now numbered amongst their esteemed friends. He was happy to say that their services were appreciated and sought for, and they congratulated some on having already obtained honourable and lucrative posts, for which they had become qualified within those walls. The result was equally satisfactory as regarded the working-man, for the intelligent artizans of London had responded to the opportunity which was offered them by this Institution, and it was a privilege and a pleasure to all who witnessed the unmistakeable earnestness and intelligence with which they attended here on Monday evenings. The school also held out advantages to the officers of the public service, both in the army and navy. This opportunity was not neglected by those for whose benefit it was intended; at the same time, it was expected that more use would have been made of it. The officers who attended mostly belonged to the medical and engineering departments of the East India Company's service. Gentlemen of the military and naval professions were often in a position to contribute to the general advancement of science, which an attendance at the occasional courses of lectures in the museum would enable them to make the most of. It was also supposed that the opportunities for scientific instruction here held out would be duly appreciated by persons in the middle and higher walks of life. That anticipation had proved fallacious. The occult science of table-turning, which now occupied the place that astrology did in former times, was regarded by them in so serious a light as to prevent them directing their attention to the cultivation of the zoological, mineralogical, chemical, or biological sciences. When they considered the large class of so-called educated persons who, instead of being the supporters of true science, ran after such things, need they wonder at the success of public follies! Yet, if they applied to them the term unintelligent, they would give mortal offence. Nothing more clearly indicated the necessity of the State taking the initiative in the general diffusion of scientific knowledge than this fact. They commenced the present session under favourable auspices, as far as the most important class of students, viz., the matriculated, were concerned. Their resources, though still limited, were increased, and much benefit would be derived from the institution of a new lectureship—that of applied mechanics. The accession of so eminent a man as Professor Willis, who was to direct the course of lectures upon that subject, must be deeply appreciated by them all, as being a new source of strength to the Institution. Of the merits of Dr. Hoffman, who was appointed to the chair of chemistry, he would not speak in his presence, the more especially as he had served with them for some time, and they had had an opportunity of appreciating his talents. His predecessor, Dr. Lyon Playfair, now filled another post of great trust and responsibility, on the conduct of which would depend in a great measure the value of institutions conducted by Government. But though separated from this Institution as a lecturer, it would still have the benefit of his advice and assistance, as he still remained a member of their educational committee. The chief object of this Institution was the illustration of the mineral constitution and products of the British islands and their Colonies. This object—whether they considered the great benefit derived by their nation from mineral wealth, or the vast capital invested in the search after, and application of, metals, or the light thrown thereby on science—could not but be regarded as an estimable one by every intelligent man. To carry it out perfectly and completely would require far more space and means than they had at their command. The applications of mineral products to the useful arts were so numerous, that no attempt could be made to illustrate them fully within those confined boundaries. However adequately some departments were represented, in others their display was only sketchy and partial. Perhaps the most distinctive feature of the Museum was, that it was the visible evidence of the bearings and purpose of the geological survey of the United Kingdom. After the Government surveyors had done their duty as topographers, the Government geologists went over the ground with the object of delineating its mineral structure. They traced new lines on the original Ordnance plates, and new maps were thus constructed, and issued to the public at an expense corresponding to the cost of the fresh work and colouring. The men who superintended this work were required to be men of skill and training, and high scientific acquirements. Here there was no off-duty, for the head had to work as long as the eyes were open. There was one department in this building represented by three or four cases, to which he could not refer without deep interest—he meant the illustrations of colonial geology. In this, the metropolis of its world-wide state, there ought to be some adequate illustration of their structure and general products. Such a display would be an object of curiosity and interest to all; but it would be a source of valuable information to the intending and thoughtful emigrant—and all men were thoughtful, at least, before they emigrated. It was with feelings akin to shame that, from their shabby but not worthless display of Colonial products, he endeavoured to impart instruction to several emigrants who came to seek information from the materials contained in the museum. All that was wanted was space, because there would be plenty of contributions, if they had only room to keep the specimens. Mr. Malcolmson had an excellent and judicious collection of Indian products, which might be had, and others had some further specimens which might be got for the asking. With regard to the educational value of museums, they could not alone and of themselves educate; but they could instruct the educated, and excite a desire for knowledge amongst the ignorant. The labourer who visited the British Museum was not so much struck by the extent and variety of what he saw as by the order and harmony in which the different groups were arranged. He thus saw that all objects, however small, had their value and meaning; and instead of regarding objects as useful, useless, or curious—the three terms to which his classification was confined—he began to view them in a new light, and the fields, and flowers, and the stones that surrounded him, began to excite a new interest within him. He acquired a new sense in the thirst for natural knowledge, whilst he lost the thirst for beer which tortured him of old. He became a better citizen and a better man; and if he had the requisite gifts from Nature, he might become a Watt, a Stephenson, or a Miller. One of the great advantages of museums was that they stimulated the observing powers,—a part of education which had been too long neglected. The education of the observing powers was quite a different thing from scientific and industrial instruction. The taste and reasoning powers were heretofore exclusively attended to. This was necessarily the case in the absence of any schools for the education of the observing faculties. There was no reason why instruction in the sciences and education of the observing powers should not be carried on together. Museums afforded the best text-books for this united education, but they required to be explained by competent teachers. This was the great difficulty heretofore, but now it was happily in course of removal by means of the Metropolitan School of Science. Museums were too often regarded in thei scientific aspect alone. They had an educational use also, the value of which must greatly depend on the perfection with which their contents were arranged. An educated youth ought to be able to instruct himself in a well-organized museum with facility and advantage; consequently, the officers who presided over these establishments had a responsible duty to perform in this respect. The noble invention of the Great Exhibition, which would prove a glory to the end of time round the name of one of the most enlightened of princes, pointed out to the people of this country the high importance and interest of an industrial collection. It was strange that, amongst a people so industrious in their habits, and so practical in their modes of thought as the English, such a collection was not formed long ago. But this defect was now in course of being removed, and libraries and museums, of which all sensible men now understood the importance, were beginning to be formed in many places. It was a question for consideration whether instruction by means of lectures should be connected with museums. Some thought that it should not. But this was to regard museums in their scientific aspect only. With respect to the British Museum, which might be viewed as a general index and cyclopædia of scientific reference, such an opinion might be correct; but, with regard to others, he was convinced, after much consideration of the subject, that museums, unless connected with a system of public teaching, were of little use. The lecturer then proceeded to refer to the provincial museums, and uttered some sharp observations on the mode of their getting up, and the defects of their arrangement, from which he excluded those of Ipswich, Belfast, Manchester, York, and Newcastle. He observed, that local Institutions of this class ought chiefly to aim at the illustration of the districts by which they were surrounded. But they all contributed to instruct and to interest; and every shilling granted by the State to public libraries and museums assisted in generating a crop of good citizens. Out of science and knowledge came charity, loyalty, patriotism, and love of our neighbour. Whilst the weeds of idleness and vice died away, sound knowledge brought civilization and peace. Few of the so-styled civilised nations deserved that noble epithet, except as contrasted with barbarous states. The admiration of physical prowess, the honouring of tinsel, and the public glorification of martial renown, were far too deeply engraven in the spirit of cultivated nations to permit the noble epithet "civilised" to be affixed to their names. The nobility of industry in all its grades, the labour of genius, the work of head and hand striving under the shade of peace, must be honoured by states and peoples before either could claim with truth to be civilized; till then they were no better than enlightened barbarians. Think how all Europe and half Asia were now for some months standing on the verge of barbarous war — how Christian nations, with hand on sword-hilt, stood ready with mutual distrust and well-grounded suspicion to guard or to strike. Think of what was worse—how the crime of ignorance festered in the by-ways of Christian lands; and then let them boast of civilization if they could. The arts, sciences, taste, skill, industry,—all seemed to rise up amongst them in spite of themselves. Like good spirits, they appeared by main force to establish themselves on earth, to struggle with and conquer us for our own welfare; and if monarchs, presidents, and states knew their own interest and that of their people, it was in these enlightened invaders they would confide. But he regretted to say that ambition and strife still remained sturdy demons, and continued to drain the treasures raised by industry and toil; and those who thought they had departed had but a limited acquaintance with the condition of mankind and the hearts of governors. He could not help hoping that the time would come when every town in Britain, even of moderate size, would be able to boast of possessing public Institutions for the education and instruction of its adults, as well as its youthful population—when it would have a well-organised museum, wherein collections of natural bodies would be displayed, not with regard to show or curiosity, but for the illustration of the analogies and affinities of organised and inorganised objects, so that the visitor might, at a glance, learn something of the laws of Nature—when each town would have a library, the property of the public, and freely open to the well-conducted reader of every class —when its public walks and parks would be made instructive in botany and its useful application—when it would have a gallery of its own, possibly not consisting of the most famous pictures or statues, but nevertheless showing good examples of sound art, examples in the history and progress of design—and, above all, the best specimens to be procured of works of genius by its native inhabitants who had deservedly risen to fame. When that good time should come, true-hearted citizens would decorate their streets and squares with statues and memorials of the great and good men and women who had adorned their province—not merely of kings, statesmen, and warriors, but of philosophers, poets, men of science, physicians, philanthropists, and great workmen. How often, in travelling through our own beautiful country, did they not feel ashamed of its towns and cities, when they sought for their ornaments and the records of their true glories, and found none! How ugly was the comparison that forced itself upon their minds between the conduct of their own countrymen in this respect, and that of the citizens of continental towns! A traveller need not go far through the streets of most foreign cities without seeing statues or trophies of honour, serving at once as decorations, and as grateful records of the illustrious men they had produced—reminding the old of a glorious past, and inciting by example the young to add to the fame of their native soil. His picture might seem a dream; but he had faith sufficient in England and Englishmen to believe that in the course of time it would come to pass. Had the foresight of the present crowned the imagination of an ancient Briton, he might have hoped for its realisation in another world, scarcely in this. But a simple belief in the probability of State and people advancing in intellectual aims and true civilisation, and working them out through the length and breadth of the land, was essentially too wholesome and compatible with the progress of Christianised human nature, not to find an embodiment in a coming reality.

HOME CORRESPONDENCE.

PATENTS.

Sir,—In considering the question of patents, meaning thereby monopolies of useful inventions for limited periods, we may set aside altogether the inventors themselves, save as a part of that public whose interest has to be discussed. The benefit to the patentee is only a contingency upon some larger benefit to be achieved for the public.

If we refer to authorities on the subject, the weight of authority must rest on the absence of all sinister interest, or the possibility of sinister interest. Two persons may be selected from the mass, as taking widely different views of the subject.

John Stuart Mill, the son of the historian of India, our foremost logician, and political economist, engaged in pursuits wholly distinct from those of patentees, and only interested in obtaining for the public all possible advantages on the best terms, says:

> "If the system of patents were abandoned for that of rewards by the State, the best shape that these could assume would be that of a small temporary tax imposed for the inventors' benefit on all persons making use of the inventions. No limit can be set to the importance, even in a purely productive and material point of view, of mere thought. . . . . Intellectual speculation must be looked upon as a most influential part of the productive labour of society."

Isambard Kingdom Brunel, the son of a mechanical contriver and patentee, known as the reputed author of the Block-machinery at Portsmouth, is an engineer, whose profession depends on mechanical repute, and who is known as one of the most acute witnesses before Committees of the Legislature, for the purpose of promoting or impeding railways. He is therefore in the position of a rival to inventors, and not himself needing patents to attain a specific standing. In his evidence before the Committee of the House of Lords he says:

> "I do not wish to express any opinion as to what might have been formerly the effects of patents, or whether they did originally encourage inventions or not. . . . I believe them to be productive of almost unmixed evil with respect to every party connected with them, whether those for the benefit of whom they are apparently made or the public. . . . A good invention now is rarely a new idea that is suddenly propounded or occurring by inspiration, but is simply some sensible improvement upon what was last done. . . . The chances are that most masters would, if they saw it was a good idea, give the man a pound or a five-pound note; and the man the next day would be at work at something else; and you would have out of that man's brains an immensely greater portion of invention, and I believe he would get much better paid for it. I believe he would really make money, whereas now everybody acquainted with these men know that they lose money by it, and that an inventor or schemer is a poor man who is more likely to go to the workhouse than anything else. . . . I do not believe that you would have the same class of men working at inventions, but I think it would be a great benefit to the public, and that the class of men at present called schemers, who I believe are a pest to society, would be got rid of; and I think that intelligent workmen would really turn out a good deal in the course of the year of what is good in the shape of ideas, and on the whole get well paid for it. . . . I think you must draw a distinction between those who appear as inventors and the parties from whom the ideas have really proceeded. I think they come generally from men of observation rather than inventors. Circumstances attract his attention; he sees a result produced which did not occur to him before, and being an intelligent man, he sees how it may be applied: and some opportunity occurs by accident, by which he can apply it or suggest it to other intelligent men; and that is how the best inventions have come about. They have not been certainly through what may be called professional inventors. . . . If there were no patent laws, I think a man would think over his invention a little, get it into a shape to do him credit, and then, if he had a good master, he would show it to him, and if he thought he could make anything of it, he would give the man a pound or two, which would be really earned instead of hundreds being dreamed of but never touched."

Mr. Brunel thinks, "that an intelligent workman who can invent would be paid more, and employed accordingly, like a clerk who writes a good hand as compared with one who writes a bad one." He contemplates the inventor as an inferior, to be set at work when required, and all "intellectual speculation" is out of the question.

Of the witnesses before the Lords' Committee on Patents, there are favourable, six lawyers, five patent-agents, seven engineers, three manufacturers, three professors, and Mr. Henry Cole, a Government officer,—total, twenty-five.

The unfavourable witnesses are, two sugar-refiners, two civil engineers, one barrister, one merchant, one lieutenant-colonel, and one member of Parliament,—total, eight.

Leaving now the question of authority, we come to the consideration whether or not it is advisable to stimulate material progress, or to leave it wholly to chance.

We may assume that the savage condition of mankind is not so desirable as that in which property is recognised. Even that low state of property in which a special hunting-ground belongs to a special tribe, is an improvement in the condition of mere individual savages. Yet, to a certain extent, even this kind of appropriation is an infringement of the natural claim which every individual human being has to his or her portion of the globe we dwell on in equal shares. But as society has to be the gainer by the stimulus of tribal property, the claim of the individual is merged in that of the general body.

As the tribes cease to be hunters and become herdsmen, pasturage remains to the tribe; but the cattle—*chattels*, become the property of individuals. This is the inducement by which

> "The skilful shepherd peels me certain wands."

In other words, improves the herds and renders them more useful to man.

As men increase in numbers, animals will not suffice for food; and digging and planting—the gardening and agricultural processes—commence. This necessitates property in land with an understood proviso, that somehow or other, those who have no land awarded them shall be enabled to get a portion of the produce of the land, either in the shape of "black mail," or in exchange for some useful things they can produce by handicraft; a proviso recognised in our modern Poor-laws, and formerly recognised by charities at the gates of religious houses; and which proviso could only be laid in abeyance by the possessors being numerous or powerful enough to disregard the non-possessors, leaving them to starve, and killing them off when caught pilfering,—precisely as the Dutch boers at the Cape of Good Hope are accustomed to deal with the Kaffirs or infidels. They take to the Hottentots as a species of useful slave essential for labour, but denounce all surplus humanity that will not work for them.

The true happiness of all human beings consists in sympathy, whether in rude and coarse things, or in those which are refined and elevated. But sympathies cannot well exist between people in a state of want, and those with their wants supplied; and therefore we may assume, that happiness cannot exist in a nation with many destitute individuals.

It follows, therefore, that the greater the amount of all things useful to man, the greater will be the general amount of happiness.

There are many things absolutely necessary; as food, fuel, clothing, and shelter, to prevent violence. There are many more things essential to induce a condition of refinement.

To produce the latter, inducements are needed of a more complicated kind than the mere supply of the bodily wants. People must have an inducement to work, both with brain and muscles. We must seek for motives in the passions of mankind. They may be summed up in the expression *love of power*, whatever may be the purposes to which the power is to be applied, whether benevolent or malevolent. Love of wealth and ambition are only varying forms of the love of power.

In former ages men have become priests, warriors, legislators, from love of power, attaching other men to them to do their bidding, either by force or persuasion. In former times the openings to wealth, the modern element of power, were few. In proportion as the power of acquiring wealth extended, new kinds of property were created. The term wealth was not confined to land and cattle. Men began to perceive that the true command laid on man by the Creator was not "to earn his bread by the sweat of his brow," but by "the sweat of the brain within the brow." The impulse was awakened to convert the powers of Nature to man's uses, and relieve him from the drudgery of mere unskilled labour. Leisure for the arts of refinement was thus given to many men without the necessity of holding their fellows in slavery, the process that was adopted by Greeks and Romans of old as their only means of luxury and leisure.

But in order to induce men to work at the arts, the same consideration was needed as for working at agriculture,—*Property in the fruit of their toil.* Thence arose the institution of trades' guilds, in which skilful men were encouraged to work at what were called "mysteries," by privileges confined to their own body, and continued by the pupils or apprentices they might choose to educate.

Patents, or limited monopolies, in consideration of knowledge in new and useful arts to be made patent or open to the public in lieu of secret "mysteries," were the next step.

Probably those patents, professedly granted for the public good, were in reality granted by corrupt governors for the sake of gain.

Be this as it may, inventors have come to be a class of men with class interests like most other classes. They are mostly men born with an aptitude for invention, whatever may be the abuses practised by patentees calling themselves inventors.

One objection made to patents is, that they grant a property in an idea to one individual, while fifty others who may have the same idea are debarred from using it.

But in answer to this it may be replied, that a patent for an original idea occurs but rarely. Most patents are for a particular phase of an idea out of one hundred or one thousand. For one application of a new idea there are probably one thousand improvements and modifications of old ideas. Embargoing one out of a hundred forms of an idea cannot anyhow injure the public.

But the monopolized form of idea may be an injury to individuals by depriving them of the use of it.

But so may any endowment of any kind, from land upwards. Those who inhabit almshouses hold places that others would wish to occupy.

But everybody could put the ideas in practice, if they were open.

Not so. There is more than the mere idea; there is much thought and planning for the form of the idea, and very much tedious agitation afterwards to persuade the public to adopt it.

But fifty people might be agitating at the same time.

Not so. People compete in existing things, not in foreshadowed things. That which may be rendered exact, is a subject for competitive calculation. The untried is a speculation shunned by all but the foreseeing. The proof of this is, that every original patent which turns out successful, is surrounded by a crowd of satellites. The patent is professedly granted to stimulate this foreseeing, and to create present progress.

But it may be said, people cannot help inventing.

Very true. But however pleasant it may be to broach new ideas, the mere promulgation does not get them into use; they are disregarded, till success as a money speculation calls attention to them. Now, as time and money must be consumed in getting them to this point, people will not trouble themselves in creating a property all their neighbours may divide gratuitously as soon as produced.

But people do make inventions without patents.

Yes, for the sake of ambition or benevolence. But these are mostly inventions that a man can produce without asking the assistance of his fellow-men. He can produce in his closet and come forth to astonish, which is very pleasant to ambitious minds. But we have few examples of benevolent inventors who work hard and consecutively at inventions, and go through the disagreeable process of agitating them, for the mere purpose of improving general trade.

But people who are manufacturers invent to improve their business.

Rarely. They, or those they employ, *contrive*. Inventions that change whole currents of operations are usually produced by lookers on, who have to work very hard to introduce them to unwilling capitalists. Capital is essentially conservative—it does not like innovation. The shipowner of this year dislikes the improved shipowner of next year. The inventor has to fight a hard battle, and not till he has fought it, and won it, do others take to it, and endeavour to snatch the prize from his grasp.

But it is alleged that inventors are like plants and animals, they are a phase of Nature. When the world is ripe for them, they are produced.

On close examination, it will more probably be found that it is the individual who, by the idea he makes known, excites the competition. But in any case, whoever can cause useful ideas to be forestalled twenty or fifty years is a very valuable benefactor to the community. The inventor-patentee morally sows the seed that the succeeding generation reaps.

But inventors are schemers, needy men, a pest to themselves and the public.

Everybody doing anything new is a schemer, a speculator in the " to come." Insurance-offices for life and fire, railways, and all other joint-stock companies, are not got up by men with a plethora of wealth. The schemers are the absorbers of capital for new and useful objects; if they were rich men, probably they would not be so industrious. And were the law of partnership altered, so that capitalists might invest small portions of their property in new schemes without endangering the whole, many an inventor with a good idea would find an idle capitalist to help him to add to the general wealth of the community.

But after all, the patent is of no use to the inventor; his monopoly, if successful, only excites cupidity, and he is plunged into numerous lawsuits, that absorb all his gains.

Possibly this sphere for plunder may assist in preventing sharks from making inroads on real property. But this evil is not the fault of the patentee, but of those who make the laws. If a property be conferred on him, it is but just that the law should afford a simple means of protecting his property. With the will, the way would be easy.

But after all, would it not be better to let invention take its chance, than to protect individuals? The public is not bound to give a premium. The fifty or a hundred with the same idea would, some one or other, work it out without the patent.

This would not be wise. All that a patentee could individually get would be a mere fraction of the benefit to the community; and it is a wise thing to provide good prizes in a peaceable way for enterprising men of genius. The spirit that prompts invention would fructify in many branches. If the avenues to distinction and power were all closed, and their positions rendered permanent to existing occupants, to the exclusion of new comers, the chances are that they would not be too permanent. Compensation would be found in some irregular manner for the spirits denied the use of their legitimate sphere. Patents are one of the several modes whereby people rise from a condition of lowliness and climb ambition's ladder, and thus keep up the balance in the community,—the circulation of ranks instead of the principle of castes.

But the granting a patent does not always ensure the benefit to the public. Some patents are taken with a view to prevent the use of an invention: and capitalists may become possessed of them, and quash them for private interest sake.

These difficulties may occur, but they are not very common; and the law might easily provide a remedy by throwing open patents wilfully obstructed, or restoring them to the inventor in case of oppression upon him by unfair dealing.

But even supposing the inventor to have discovered something useful, does it follow that he is the man best fitted to get it into use in actual business or production?

Perhaps not directly, but indirectly, he does by incessant agitation. The capitalist embarked in a specific manufacture, or machine-acture, has very commonly a conservative tendency. He preaches the doctrine of finality. He would keep the public funds at what he calls " natural interest," *5l.* per cent. for ever. He would ennoble his name with his mill, and cause it to descend in a right line for ever. He dislikes and hates the inventor whose elastic mind disturbs all this gravitation to fixed points.

It is impossible to lay too much force on the desirability of extending as widely as possible the sphere of individual distinction and power, even for the sake of the capitalists themselves. They would sink into stagnation, competing with each other in low prices till they brought machine-acture to as low a rate of interest as the funds. They would destroy the whole energy of the community. There needs the wholesome condition, for the safety and progress of a state, that all energy and genius should be usefully employed, and not repressed. There are two processes by which people rise from the ranks to become persons of wealth—by incessant drudgery, combined with saving, and the repression of all the nobler qualities; or by the operation of original minds. The original mind is a *property* given by Nature. If this original mind be resident in a workman in a factory, without any possibility of securing a property in his ideas, with nothing to depend on but the liberality of his employer, the chances are that the usual consequences of irresponsible power will ensue. He will have to sell his birthright for a mess of pottage. His skill, his name, his ambition, and his genius will all be sunk in the *1l.* or *5l.* which his employer may — if a good master— bestow upon him, or which he may withhold if it so pleases him. Now, if we imagine a wealthy man, of narrow mind and low ambition, in the position of employer, he would permit no ideas to expand save such as might be conducive to his own profit; and he would take care that all the gain, whether in money, or repute, or power, should concentrate in himself. This would be like ashes on the inventor's mouth, and he would cease to invent. The stimulus would be gone, and he would turn to other things in which he might have scope to rise to the level of his capacity. Take away the protection of the patent, every new process worked out by originators would be watched by unscrupulous neighbours, who would rush at the plunder, when worth taking, as vultures at a quarry,—of which the state of pattern stealing amongst manufacturers has been an example.

The countries where patents have most flourished are England, the United States, and France. Patents are taken out in England by natives of all civilized communities; and England is at the head of civilization. The *property* in the fruits of the brain, as well as the brains themselves, has had something to do with this.

Switzerland never had patents; but her division into Cantons, constantly in disputes from religious or other causes, may well account for this apparent anomaly. A patent for a single Canton could not well be a protection.

The suggestion of driving out inventors from the field by the denial of patents for protection, and thus penning up invention amongst workmen, to be remunerated by *1l.* and *5l.* at the benevolent discretion of their employers, is ingenious; but like the contrivances of Abel Handy, in the play, would probably not work well. One result might safely be predicted—the great body of inventors would make the United States their sphere of action, and their skill and energy would be directed to upraise still higher our chief rival in all that concerns national power. The progress of England would receive a sensible check, not in the first few years, but in gradually getting ten to twenty years behind the " smartest nation in creation."

This subject of patents does not concern England alone. It is a question, at least for the English world, —not now bounded by the " four seas," but reaching wherever the English language is spoken. America is entitled to be heard at the bar. In the matter of mutual copyright in books she has retraced her steps—*it did not pay;* and depend upon it, her men of genius, who aid in her national progress, will have a fellow-feeling with those of the "Old country." They will agitate there and here for such laws as may help forward general progress. The abolition of patent laws here would be a signal for a general pillage of American inventions, to undersell them in the market of the world, when the patterns had been produced.

Inventors, broadly considered, are pattern-sellers, and pattern-sellers must ever be a highly-paid race. They pluck the tree of knowledge—of good, not of evil —and enable all to eat thereof.

With regard to the use of new ideas, that is, the putting in practice new principles, the profit is usually but little. The second growth, improvers and contrivers, usually reap the reward. It is probable that every succeeding year will behold changes of old things for new, and the rapidity with which the new supersede the old is *primâ facie* evidence of their importance. The premium to the inventor is in no case more than the shadow of a shade of the total value to mankind.

But it is conceivable that the patent privileges conferred for new things may be very seriously objectionable to those sitting in the seats of actual power, because they may bring forth new men with newer powers to take their places. The patent is the vantage-ground which, to the man of genius and conduct, is what the first-saved 100*l.* is to the mere man of business.

When the forthcoming catalogues of patents shall be produced, a large portion of litigation arising from uncertainty will be put an end to, and the number of new patents will be much lessened by people knowing what has been done before. The evils of patents are not inherent in the principle, but in the haphazard defective modes of legislation concerning it.

I am, Sir,
Yours faithfully,
October 3rd, 1853. COSMOS.

ON THE IMPROVEMENT OF LEATHER.

SIR,—A leading article, referring to my patent process of converting skins into leather, appeared in the *Gardener's Chronicle*, which you and the editors of several newspapers have copied, and which I cannot permit to pass unnoticed, in particular as I have the honour to be on our Society's Standing Committee for Leather, &c., as my silence might be considered an approval of all that is therein stated; and especially of the opinion that oak-bark will be very much depreciated, and in future not be worth stripping off the trees, which appeared to me like irony when I first read it, as the quantity of leather which I manufacture is so small in proportion to the general produce of this country, that even supposing that the pressing demands of my customers for larger supplies should gradually be the cause of an extension of twenty times the present produce of my small factory (which is more than I expect), the quantity made would hardly be one-sixtieth portion of the total requirements, and an immense supply of tanning materials would still be wanted, for which tanners have not to look only to the owners of oak-trees in England, as the article in the *Gardener's Chronicle* appears to state, but are now, and will continue to be, dependent upon an annual importation of about 250,000 cwt. of oak-bark from Belgium and Holland, 120,000 cwt. of different descriptions of bark, and 750,000 cwt. of substitutes containing tannic acid; such as terra japonica, cutch, gambier, sumach, and valonia, from other countries.

All these articles have very much increased in value during the last few years; and leather tanned in foreign countries has also been imported in large quantities, as there is not sufficient made here for the demand. Of all the manufactures of this country that of leather is considered the fourth in importance; and the annual value of the leather manufactures was estimated some years ago at 14,000,000*l.* sterling. No doubt it is more at present, and is going on increasing; it is therefore my opinion that owners of oak trees in this country, and the importers of tanning materials from foreign countries, have no reason to apprehend any reduction in the demand; and that an enlarged manufacture of leather, even if carried on without the use of bark, or the substitutes hitherto known, will not injure any classes of producers or manufacturers, and will prove a public benefit.

I abstain from any remarks regarding the qualities of my new leather; it has worked, and will continue its own way in the estimation of those who use it for different purposes.

I remain, Sir, yours faithfully,
C. A. PRELLER.
Lant-street, Borough, Oct. 5, 1853.

PROCEEDINGS OF INSTITUTIONS.

BEDFORD.—The Winter Session, at the Literary and Scientific Institution, was opened with two Lectures "On Popular Illusions," by Professor Partington, which were delivered on the evenings of Tuesday the 27th, and Wednesday the 28th of September. Mr. W. Blower, one of the Vice-Presidents, presided. On the following evening, the 29th ult., the Half-yearly general meeting for the election of officers, was held, when the following gentlemen were chosen as Members of the Committee for the ensuing year: Messrs. Sergeant, Usher, Ballard, and Roberts. Mr. White, one of the Committee, referred to the increasing demand for good books, and moved that a special meeting be called to consider a plan for enlarging and enriching the library.

BRIGHTON.—The opening Lecture of the Autumn Course, in connection with the Athenæum, on "English Music, and English Musicians," was delivered in the Town Hall, on Wednesday evening, September 28th, by Mr. Thomas Williams, assisted in the vocal illustrations by Miss B. Williams, and Miss Julia Bleaden; Mr. F. Osborne Williams presiding at the pianoforte. Mr. Williams reviewed the musical characteristics of our principal English composers, illustrating their respective styles by the selection of some of their best songs, duets, trios, &c., plentifully interspersed with anecdotes. He analysed the present state of English music, and showed the great advances that had been made during the last twenty years.

DEVONPORT.—The members and friends of the Mechanics' Institute were gratified, on Monday evening week, with one of the most enterprising efforts that was ever associated with the management of these popular Institutions; and the result of the enterprise was such as to prove that the boldness of it was not only unattended with loss, but likely to prove permanently beneficial to the Society. The occasion was an engagement of Madame Grisi, Signor Mario, Madame Doria, Madame Dreyfus, Signor Ciabatta, and Mr. J. L. Hatton, who gave a grand concert on the opening of the session; the programme comprising several English ballads, as well as Italian and German airs. The prices were so arranged that the concert should be accessible to all, and the result was, that even with low prices, the receipts more than covered the expenses; and, what is of perhaps greater consequence, the Institute has gained 193 additional subscribers since the first announcement of the concert. Between the first and second parts, Mr. R. Burnet, the founder of the Institute, who occupied the chair, addressed the audience; enumerating a few of those who by means of the instruction they had received at the Institute, and by their perseverance and industry, had raised themselves in the world. He said, when the Institute was first established, a shipwright apprentice came and paid his two shillings for a quarter, or his two pence a week. He offered himself as "the gratuitous librarian;" he was accepted, and filled worthily the office. By perseverance and study he was soon promoted, and was subsequently appointed to a most lucrative position, as master shipwright, in India. When that establishment was broken up, he returned to England, and was appointed to the same position in the Devonport Dockyard. His name was Turner. We had next a young shipwright apprentice, who was fond of drawing boats and ships: he became the teacher of others, and he now fills a situation in Somerset house, the highest of his class. His name is well known as Mr. Thomas Waterman, a man who has constructed more steamers and ships than any man in England; but his plans have not been confined to Government ships.—The next name he should mention was that of Mr. Paterson. He came from a distant town; he was fond of sketching, and taught others: now his portraits are well known, and he seems to have caught the spirit of Sir Thomas Lawrence.—About this time a young man made an application to take home Rees' "Encyclopædia," but it being against the rules of the Society to separate large folio works, and he being very earnest, an especial meeting was called, and permission given him to take the volume home. This laid the foundation of his future fame. He is now the justly celebrated astronomer, who calculated, by anticipation, the ways of Divine Providence, in foretelling the appearance of a new planet. Need he say that his name was Adams?—The last was a watchmaker's apprentice, who had often delighted and much informed the members and friends of this Institute, but not upon the subject of clocks or watches. His knowledge of the sciences seemed to be universal. He it was who improved the system of great circle sailing, though he was not the originator of it. Mr. Towson, for that was the gentleman alluded to, had shortened the distance to Australia by twenty or thirty days each voyage.

MISCELLANEA.

Clarkson's Life-boat.—Recently some trials were made at Dover to test the value of this invention. The boat was manned by eleven men, independent of the patentee and a gentleman named Trott. The boat having put to sea, the men, first securing the plugs, commenced filling her with water by means of a bucket; and when filled, the sail was set. The weight of water, however, had not any effect upon the boat, and she maintained her position apparently without sustaining the slightest detriment. The crew then rocked her, and endeavoured by every means to sink her. This was also unavailing, and she still sailed as buoyant as before. On the following day Mr. Clarkson gave some additional experiments with his captain's gig, a smaller boat, but made of similar material, and on the same principle as the life-boat. The boat was pitched off the pier into the sea by several men, but instantaneously righted, and relieved herself of water. Several tests were then tried upon her, and among others she was turned over, keel upwards. This was not effected without difficulty, but she turned into the proper position immediately.

Railway Accidents.—Mr. Neison, who has paid much attention to railway statistics, has calculated, that if a person were born in a railway carriage, and were to be continually travelling on railways, day and night, till he was killed by an accident, he would, according to the average number of passengers and deaths, live 960 years.

Measurement of the Meridian.—It has been announced that the Russian Government is about to have measured the degrees of the meridian from the North Cape, in 72½° north latitude, to the mouth of the Danube, in 45° of the same latitude—that is, on a line which traverses Europe in its whole length, and forms about a fourteenth part of the entire circumference of the earth. This measurement will exceed, by three degrees, the largest ever before executed—that which the English carried from the Himalaya to the southern point of British India.—*Civil Engineer and Architects' Journal.*

Museum of Ornamental Art.—The collection of objects of art, which has been for some time open to the public at Marlborough-house, in connection with the Department of Science and Art, having lately received some important additions, the exhibition in its augmented form was open to private view on Saturday. Amongst the most interesting objects now for the first time exhibited, may be mentioned some curious specimens of Italian earthenware, and a variety of porcelain from the manufactories of England, Naples, Bavaria, Spain, and Holland. There are also some beautiful specimens of early porcelain from France, and in the collection of china there are, it is said, a thousand new pieces, the majority of them being extremely striking and unique. In the compartment which is adorned by Her Majesty's magnificent collection of Sèvres porcelain, is a variety of pieces of early English china, so arranged as to indicate the gradual progress which has been made in this branch of useful and ornamental art. The Oriental pottery has been subjected to an entirely new arrangement, and its present classification renders it one of the most important and instructive features in the museum; whilst the Venetian glass, which is displayed in close proximity to it, is especially remarkable for its beauty and antiquity. The works in ivory, horn, and bone, mixed materials, basket-work, and marble, have also received some value able additions; whilst the jewellery and enamels on metals have been so far augmented and improved, that they now enter very largely into the most important and attractive feature of the exhibition.

PATENT LAW AMENDMENT ACT, 1852.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

From Gazette, 30th September, 1853.

Dated 1st July, 1853.

1585. J. Getty, Liverpool—Ship-building.

Dated 20th August.

1948. W. Vaughan, Stockport, and J. Scattergood, Heaton-Norris—Machinery, &c., for weaving.

Dated 23rd August.

1962. T. Herbert and E. Whitaker, Nottingham—Warp machinery for purled and other fabrics.

Dated 9th September.

2071. P. A. le Comte de Fontainemoreau, 4, South-street, Finsbury—Consuming carbon escaping combustion. (A communication.)
2075. E. Lumby and Z. Sugden, Halifax—Needles used in carpet manufacture, &c.
2077. J. Martin, Faversham—Locks.
2079. J. L. Bell, Newcastle-on-Tyne—Sulphuric acid.
2081. C. M. T. du Motay and E. L. Duflos, 2, Rue Drouot, Paris—Bleaching fibrous substances.
2083. J. Childs, Gilston-road, Brompton—Manufacture of materials as substitute for mill-board, &c.
2085. E. A. Gouin, 110, Avenue de Clichy Batignolles, Paris—Improvements in looms, &c.
2087. R. Drew, Bath, and J. Bayliss, Birmingham—Stay and other fastenings.

Dated 10th September.

2088. W. C. Forster, 81, Hatton-garden—Manure.
2089. A. Warner, 34, Dorset-place, Dorset-square—Application of fibrous parts of palm-tree and leaf to arts and manufactures.

2090. J. D. Brunton, Truro—Apparatus for separating gold and silver from ores, &c.
2092. J. Grist, Islington—Stave jointing and shaping machine.
2093. **F. Scragg**, Buglawton, Cheshire—Steam-engines.
2094. E. Leyland, St. Helen's, Lancashire—Sulphuric acid.
2096. C. Jacob, 6, Ingram-court, Fenchurch-street—Manufacture of lime.
2097. R. Tronson, Chamber of Commerce, Liverpool—Ventilating and preventing spontaneous combustion in ships and other vessels laden with coal, &c.
2098. T. Metcalfe, 19, High-street, Camden-town — Portable chairs and tables.
2099. J. Webster, Ipswich—Treatment of oily and fatty matters for candle-making.
2100. J. Ward, Saville House, Leicester-square, and E. Cawley, 24, Stanley-street, Chelsea—Improvements in chairs, couches, &c.
2101. J. Marks and J. Howarth, Massachusetts—Machinery for operating brakes of railway carriages.
2102. J. F. Chack, Castle-street, London—Machinery for cutting veneers. (A communication.)

Dated 12th September.

2103. W. Weild, Manchester—Lathes for cutting, turning, &c., wood, metal, &c.
2104. J. W. Child, Halifax, and R. Wilson, Low Moor Ironworks—Valves and pistons.
2105. J. H. Johnson, 47, Lincoln's-inn Fields—Transmission of motive power, substitute for the crank. (A communication.)
2106. E. R. Turner, St. Peter's Foundry, Ipswich—Grinding-mills for farm and other purposes.
2107. J. Lilley, jun., Jamaica-terrace, Limehouse—Mariners' compass.
2108. J. Maudslay, Lambeth—Boilers and furnaces for generating steam.
2109. J. Robison, Coleman-street, and W. Jackson, Leman-street—Consumption of smoke.
2110. A. V. Newton, 66, Chancery-lane—Printing-blocks and cylinders. (A communication.)
2112. C. Cannon, 27, Dance-street, Liverpool—Motive-power.
2113. A. V. Newton, 66, Chancery-lane—Machinery for crushing, &c., mineral substances. (A communication.)

Dated 13th September.

2114. T. H. Ewbank, South-square, Gray's-inn—Manufacture of looped fabrics, and machinery for same.
2115. C. F. Adams and W. Gee, 23, Middle-street, Cloth-fair, London, and G. Davis, 8, Bath-street, Newgate-street—Lithographic and zincographic printing of words, &c., on metal, glass, &c., with or without intervention of paper or other flexible materials.
2116. H. Dubs, Vulcan Foundry, Warrington—Manufacturing iron or steel.
2117. A. Sington, Manchester—Machinery for setting doctors used in calico printing. (A communication.)
2118. A. Allan, Crewe—Locomotive and other boilers.
2119. J. H. Dickson, Evelyn-street, Lower-road, Deptford—Flax machinery.
2120. J. Behrens, Bradford—Manufacture of zinc. (A communication.)
2321. W. Smith, Little Woolstone, Bucks—Implements for tilling land.
2122. E. Goddard, New York—Machinery for cutting stone.
2123. M. Poole, Avenue-road, Regent's-park—Apparatus for removing matters or heat from currents of air, &c., and communicating the same. (A communication.)
2124. R. Laming, Mill-wall—Purifying gas.

Dated 14th September.

2125. J. Wakefield, Inchicore Works, Dublin, and J. Baskerville, Dublin—Valves for reciprocating-engines driven by steam, &c.
2126. J. Wilson, Manchester—Machines for printing fabrics.
2127. P. Webley, Birmingham—Repeating fire-arms.
2128. J. Timmis, Stafford—Safety-valves.
2129. A. Wallace and G. Galloway, Glasgow—Portable furniture.
2130. J. J. G. Collins, Philadelphia—Steam-engines.
2131. J. H. Johnson, 47, Lincoln's-inn Fields — Sewing-machines. (A communication.)
2132. J. Higgin, Manchester — Burning fluids for obtaining heat.
2133. C. T. Hook, Tovil House, Maidstone—Manufacture of pulp.
2134. R. D. Kay, Bank-terrace, Accrington—Improvements in block-printing.
2135. M. Poole, Avenue-road, Regent's-park — Machinery for separating flour-shorts and dustings from bran, &c. (A communication.)
2136. G. Spencer, 6, Cannon-street West—Supporting rails, &c.
2137. J. Behrens, Bradford—Generating steam. (A communication.)
2138. T. Swingler, Victoria Foundry, Litchchurch, Derbyshire—Permanent way.
2139. W. Nash, Burslem—Manufacturing china and earthenware articles on the lathe.

Dated 15th September.

2140. C. White, Pimlico—Blocks for block-printing.
2141. E. Edwards, Birmingham—Gas-stove.
2142. T. Browning, Pendleton—Machinery for washing, scouring, &c.
2143. H. Kraut, Zürich, Switzerland—Tools for boring rock for blasting
2144. T. W. Keates, Chatham-place, Blackfriars—Distillation of turpentine.
2145. H. Hilliard, Glasgow—Apparatus for cleaning cutlery.
2146. L. F. H. C. Knuth, Old Bailey, London—Purses, cigar-cases, &c., &c.
2147. Dr. H. Jeanneret, Great Titchfield-street—Digging machinery.
2148. M. Poole, Avenue-road, Regent's-park — Distributing type. A communication.)
2149. S. Smith, Hyson-green Works, Nottingham—Governors for steam-engines.
2150. J. Barsham, Kingston-on-Thames — Bricks, tiles, and blocks.

Dated 16th September.

2151. F. Higginson, 45, King William-street, London-bridge—Propelling ships.
2152. D. Mushet, Coleford, Gloucestershire — Steam-engine boiler and other furnaces.
2153. W. S. Icely, Bromley—Mechanical telegraphs.
2154. H. Meyer, Manchester—Looms.
2155. W. Carron, Birmingham—Signalling.
2157. A. Barclay, Kilmarnock—Arranging and working mining engines.
2158. A. Barclay, Kilmarnock—Lubricating shafts or revolving metallic surfaces.
2159. A. Thomson, and D. Lockerbie, Glasgow — Kilns for baking and burning earthenware.
2160. J. Adcock, Marlborough-road, Dalston — Apparatus for measuring distance travelled by vehicles.
2161. B. F. Weatherdon, Chancery-lane, and M. S. Hooper Sydenham—Railway-signals.

Dated 17th September.

2162. T. E. Lilly, Birmingham—Carriages.
2164. J. Burton, Crawshaw Booth, Lancashire—Shuttles for weaving, &c.
2165. R Litherland and T. Picton, of Toxteth-park, Liverpool —Manufacturing brushes, and machinery for applying the same to polishing, cleaning, &c.
2166. C. Nickels and R. Selby, York-road, Lambeth—Flexible tubes and bands, and covering wire.
2167. H. C. Jennings, 8, Great Tower-street—Bleaching resinous substances.
2168. Baron H. de Bode, 8, Albert street, Camden-road — Manufacture of wheels.
2169. R. A. Brooman, 166, Fleet-street—Manufacture of soap. (A communication.)

Dated 19th September.

2170. E. Thomas, Belfast—Looms for weaving.
2172. W. L. Anderson, Norwood—Propelling ships, &c.
2173. J. Stevens, Richmond—Motive power by aid of air, steam, &c.
2174. T. Restell, Strand, London—Opening and closing ventilating louvres.

Dated 20th September.

2175. S. Walker, Birmingham—Machinery for manufacturing thimbles.
2176. R. Fletcher and John Smith, Birmingham—Fire-arms.
2177. H. Walker, Gresham-street—Stopping vehicles on railways.
2178. J. L. Beloud, S. C. Beloud, and G. Guyatt, Greek-street, Soho—Shears.
2179. A. M. Servan, Philpot-lane—Distilling fatty and oily matters.
2180. M. Poole, Avenue-road, Regent's-park—Life-preservers. (A communication.)
2181. F. Potts, Birmingham—Manufacture of taper-tubes.
2182. W. Stockil, Long-lane, Surrey—New method of blocking leather.
2183. S. Neal, Manchester, W. B. Jerrold, Inner Temple, and C. Montgomery, Cornhill—Manufacture of casks and barrels. (A communication.)
2184. H. Needham, Wardour-street—Revolving fire-arms.
2185. J. Gibbs, Abingdon-street—Treatment of minerals for the purpose of separating impurities.

Dated 21st September.

2186. G. Peabody, Warnford-court, London—Machinery for dressing and warping yarns. (A communication.)
2187. A. V. Newton, 66, Chancery-lane—Method of forming seams and ornamental stitching, and machinery for same. (A communication.)
2188. A. V. Newton, 66, Chancery-lane—Steam-boilers, &c. (A communication.)

Dated 22nd September.

2192. P. R. Arrowsmith and J. Newhouse, Bolton-le-Moors—Spinning and doubling machines.

2194. T. W. Walker, Hangley, Staffordshire—Crates of wood for potters.
2196. S. A. Benetfink, Cheapside—Coal-box.

APPLICATIONS WITH COMPLETE SPECIFICATIONS FILED.

2190. J. Baldwin, Birmingham — Making paper bags. 22nd Sept., 1853.
2209. C. F. Stansbury, Cornhill — Converting fine coal into lumps. 26th Sept.
2215. N. Callan, Maynooth College—Protecting iron against action of weather, &c. 27th Sept.

WEEKLY LIST OF PATENTS SEALED.

Sealed September 29th, 1853.

743. James Webley, of Birmingham—Improvements in the construction of repeating or revolving and other pistols and fire-arms.
745. Thomas Hill, of Southampton—Improvements in springs, and also in the modes of their application to railway engines and carriages. (A communication.)
748. Robert Heath, of Betley, Staffordshire—Improvements in railway-breaks and signals.
749. Isaac Rider, of Bristol — Improvements in cocks for drawing off beer or other liquids.
750. Lawrence Frederick Keogh, of Liverpool—Improvements in looms for weaving.
755. John Pym, of Pimlico—Improvements in the permanent way of railways.
757. Julian Bernard, of Guilford street, Russell-square—Improvements in boots, shoes, and clogs, and in the machinery or apparatus and materials connected therewith.
769. Lot Faulkner, of Cheadle—Improvements in the method of obtaining motive power.
772. Robert McGavin, of Glasgow — Improvements in the construction of ships' masts, yards, booms, and in spars.
774. John Radcliffe, of Bradford—Improvements in looms for weaving.
788. George Robb, of Glasgow—Improvements in the manufacture of sulphuric acid, alkalis, and other salts.
791. Christopher Garman Rosenkilde, of Christiansand, Norway—Improvements in window-sash fastenings.
792. Frederick William Mowbray, of Bradford, Yorkshire—Improvements in doubling wool and other fibrous substances.
794. James Findlow, of Manchester—Improvements in beds or couches for sick persons.
797. William Beckett Johnson, of Manchester—Improvements in steam-engines and apparatus connected therewith.
800. George Henry Brockbank, of Crawley-street, Oakley-square—Improvements in horizontal pianofortes.
806. Antoine Burg, of Paris—Certain instruments, apparatus, and articles for the application of electro-galvanic and magnetic action for medical purposes.
817. William Pidding, of the Strand—Improvements in the manufacture of woven, textile, or other fabrics, and in the machinery or apparatus connected therewith.
821. William Pidding, of the Strand—Improvements in the preparation or treatment of twine or other threads, or cuttings of paper or other waste, for the production of useful and ornamental articles.
832. William Augustus Pascal Aymard, of South-street—Improvements in the preparation, and application to the manufacture of candles and other purposes, of certain fatty and resinous bodies or substances. (A communication.)
833. William Morgan, of Birmingham — Improvements in paper and cardboard cutting machines.
835. Frederick William Mowbray, of Bradford — Improvements in apparatus used in preparing and combing wool and other fibrous materials.
844. George Frederic Goble, of Great Fish-street Hill—Improvements in safety-valves for steam-boilers and gas-chambers.
853. Joshua Farrer, of Marsden—Improvements in the treatment of flax, line, grasses, and other fibrous substances.
855. George Frederic Goble, of Great Fish-street Hill—Improvements in machinery to be actuated by water or air.
862. Robert Bostwick Ruggles, of Patterson, State of New Jersey, and Lemuel Wright Serrell, of New York—Improvements in machinery for beating gold and other laminæ of metal.
872. Richard Archibald Brooman, of Fleet-street—Improvements in grinding and pulverizing gums, gum-resins, and other drugs, and articles of similar character. (A communication.)
922. Samuel Bayliss, of Old Broad-street—Improvements in consuming or preventing smoke and heating liquids.
1015. William Johnson, of Lincoln's-inn Fields — Improvements in machinery or apparatus for marking, ruling, or ornamenting surfaces. A communication.)
1047. Oliver P. Drake, of Massachusetts, United States of America—A new or improved apparatus for vaporizing benzole, or other suitable hydro-carbon, and mixing it with atmospheric air, so that the mixture may be burnt for the purposes of illumination or otherwise.
1049. James Bristow, of Bouverie-street, and Henry Attwood, of Holland-street, Blackfriars-road—Improvements in the means of consuming smoke.
1122. William Longmaid and John Longmaid, of Beaumont-square — Improvements in treating waste products obtained in smelting and otherwise treating ores and minerals, and in producing a valuable product or products therefrom.
1151. John Henry Johnson, of Lincoln's-inn Fields—Improvements in machinery or apparatus for effecting agricultural operations.
1156. Marie Pierre Ferdinand Mazier, of Aigle, France—A machine for cutting and reaping corn, corn crops, and other plants.
1353. Richard Longden Hattersley, of Keighley—Improvements in machinery for forging iron and other metals.
1656. Andrew Burns, of Glasgow—Improvements in constructing iron ships, boats, boilers, and other metallic structures.
1697. William Edward Newton, of Chancery-lane—Improvements in machinery or apparatus for digging, excavating, and removing earth. (A communication.)
1698. Edmund Reynolds Fayerman, of Shaftesbury-crescent —A method of, and instrument for, keeping time in music.
1713. Richard Dart and Edward Silverwood, of Bedford-street, Covent-garden—The adaptation of loom machinery to the purposes of embroidery for badges worn by the police, railway officials, and other officers, and which require a succession of figures.
1738. Frederick Warner and John Lee, of the Crescent, Jewin-street—Improvements in water-closets and urinals.
1740. James Murdoch Napier, of York-road, Lambeth—Improvements in letter-press and other raised surface printing-machines.
1747. Robert Bitten, of Dartford—Improvements in apparatus for ascertaining and indicating the supply of water in steam-boilers.
1749. John Ferguson, of the Heathfield Brick and Pottery Works, Glasgow—Improvements in kilns for baking or burning clay.
1751. William Edward Newton, of Chancery-lane—Improved machinery or apparatus for stopping cables. (A communication.)
1775. James Edward McConnell, of Wolverton—Improvements in steam-engines and boilers for marine purposes.
1796. Robert Griffiths, of Mornington-road, Regent's-park—Improvements in the manufacture of bolts and rivets.
1814. Charles Frederick Stansbury, of Pall-mall — Improvements in machinery for tempering clay, and pressing or converting it into bricks. (A communication.)
1815. William Sargeant Roden and William Thomas, of the Ebbw-vale Iron-works — Improvements in rolling metals.
1847. William Edward Newton, of Chancery-lane—Improvements in horse-shoes. (A communication.)
1848. William Hickson, of Carlisle — Improvements in the application of heat for baking and drying purposes, and in the generation of steam.

Sealed 1st October.

781. Henry Spencer, Henry Tattersall, and Hugh Simphson, all of Rochdale—Improvements in machinery or apparatus for preparing and spinning cotton and other fibrous materials.
786. Sir James Caleb Anderson, Bart., of Fermoy, Ireland—Improvements in locomotive engines.

Sealed 3rd October.

810. William Mavity, of Birmingham—A new or improved method of manufacturing letters and figures, to be used as printing type, lettering for sign and window-boards, and other such like purposes.

WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

Date of Registration.	No. in the Register.	Title.	Proprietor's Name.	Address.
Oct. 1	3517	A Stock	James Mellor	9, Chestergate, Macclesfield, Cheshire.
" "	3518	A Cravat	James Mellor	9, Chestergate, Macclesfield, Cheshire.